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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/822,784	04/13/2004	Wei-Chi Lu	GEN0021-US	3197

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EXAMINER

MISIURA, BRIAN THOMAS

ART UNIT	PAPER NUMBER
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2112

DATE MAILED: 09/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/822,784		LU, WEI-CHI	
	Examiner		Art Unit	
	Brian T. Misiura		2112	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

Response to Arguments

1. Applicant's arguments with respect to Claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.
2. The examiner takes notice to the amendments made to the Specification and in turn removes the previous objection to the Specification.
3. The examiner also takes notice to the amendment to Claim 20 to overcome the objection due to a misspelling; the previous Claim objection has also been removed.

Claim Objections

4. Claim 1 objected to because of the following informalities: the examiner believes the word "hot" should be included in the following added claim language "said first hot plug/hot swap interface, said second hot plug/hot swap interface". Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1-5, 7, 9, 10, 12-15, 17, 19, 21, and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Lin, U.S. Patent Application No. 10/063,777 in view of Perry et al. U.S. Patent Application Publication No. 2003/0236910.

6. Per claims 1, 10, Lin discloses: an apparatus for multiple host access to a storage medium, comprising:

- a first hot plug/hot swap interface for interfacing to a first host (figure 2 numeral 32);
- a second hot plug/hot swap interface for interfacing to a second host (figure 2 numeral 36);
- a storage interface for interfacing to said storage medium (paragraph 20, figure 2 numeral 42a);
- a control circuit for controlling access to said storage medium from said first host and said second host (figure 2 numeral 42),
- so that, when only one of said first host and said second host is effectively interfaced with said apparatus, said storage medium is appended to said effectively interfaced host and said apparatus provides access to said storage medium from said effectively interfaced host (paragraph 22, figure 2),

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- and when both said first host and said second host are effectively interfaced with said apparatus, said storage medium is appended to one of said first host and said second host (paragraph 24, figure 2)
- said apparatus provides bridging between said first host and said second host as well as access to said storage medium from both said first host and said second host (paragraph 20, particularly “whereas operational mode B 42b is a host-to-host linking device.”, paragraph 26, figure 2 numeral 42b).

Lin does not disclose a buffer circuit interfaced with said first hot plug/hot swap interface, said second hot plug/hot swap interface and said storage interface so as to process data among said first host, said second host, and said storage medium.

However, Perry discloses a Message Buffer (paragraph 27, figure 1 numeral 20) interfaced with a first and second host (figure 1 numeral 16), and a mass storage unit (paragraph 20 figure 1 numeral 14), and acts in the process of data among the hosts' and the mass storage unit (paragraph 33 and 35, figure 1)

- It would have been obvious to one having ordinary skill in the art at the time of the applicant's claimed invention to incorporate the teaching of Perry into the system of Lin to have a single buffer circuit instead of numerous buffer circuits.
- The modification would have been obvious because one having ordinary skill in the art would want to reduce the number of buffer circuits in their system in order to save both space and cut down the cost of production.

7. Per claims 2 and 12, Lin discloses: wherein when both said first host and said second host are effectively interfaced with the apparatus, said storage medium is appended to the first effectively interfaced one of said first host and said second host (paragraph 20, figure 2, detection circuit 40).

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8. Per claims 3 and 13, Lin discloses wherein said control circuit comprises a detecting circuit for detecting interface states of said first host and said second host (paragraph 20, figure 2 numeral 40) and a switching circuit for switching the appending of said storage medium to said first host or to said second host (paragraph 20, figure 2 numeral 42 "control circuit").

9. Per claims 4, 14, and 21, Lin discloses: the apparatus for multiple host access to a storage medium of claim 1, wherein said first hot plug/hot swap interface and said second hot plug/hot swap interface are USB (Universal Serial Bus) interfaces (paragraph 20 figure 2).

10. Per claims 5, 15, and 22, Lin does not disclose the hot plug/hot swap interfaces are IEEE 1394 interfaces.

However, it would have been obvious to one having ordinary skill in the art at the time of the applicant's claimed invention to use a Firewire interface rather than USB since both methods are very similar and both can be the ideal choice in different systems.

11. Per claims 7 and 17, Lin discloses: the apparatus for multiple host access to a storage medium of claim 1, wherein said storage medium is a memory device (paragraph 20, particularly "operational mode A 42a is a permanent storage device (such as a flash memory stick)").

12. Per claims 9 and 19, Perry discloses a buffer circuit as described in claim 1, however Perry does not disclose that the buffer circuit is a FIFO buffer.

Lin discloses two separate buffers, each being FIFO buffers (paragraph 20, figure 2 numeral 34 and 38).

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- It would have been obvious to one having ordinary skill in the art at the time of the applicant's claimed invention to incorporate the teaching of Perry into the system of Lin to have a FIFO buffer handle the transactions of the system.
- The modification would have been obvious because one having ordinary skill in the art would want to use a buffer that demonstrates a method of priority in which data/messages are processed, which a FIFO buffer demonstrates as disclosed in Lin.

13. Per claims 6, 8, 16, and 18, Lin does not disclose wherein the medium is a mass storage device/hard disk drive.

However, Perry discloses: wherein said storage medium is a mass storage device/hard disk drive (paragraph 20).

- It would have been obvious to one having ordinary skill in the art at the time of the applicant's claimed invention to incorporate the teaching of Perry into the system of Lin to provide a means of non-volatile storage for the hosts to access.

14. Per claim 11, Lin does not disclose a plurality of storage interfaces and storage media.

However, Perry discloses wherein, said apparatus comprises a plurality of storage interfaces for interfacing to a plurality of storage media (paragraph 20 – plurality of disk drives arranged in ranks or arrays).

- It would have been obvious to one having ordinary skill in the art at the time of the applicant's claimed invention to incorporate the teaching of Perry into the system of Lin to provide multiple storage means allowing for more total storage capacity.

15. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lin, U.S. Patent Application No. 10/063,777, in view of Perry et al. U.S. Patent Application Publication No. 2003/0236910 in further view of Luke et al. U.S. Patent No. 6,233,640.

16. Per claim 20, Lin discloses: an apparatus for multiple host access to a storage medium, comprising:

- a first hot plug/hot swap interface for interfacing to a first host (figure 2 numeral 32);
- a second hot plug/hot swap interface for interfacing to a second host (figure 2 numeral 36);
- a storage interface for interfacing to said storage medium (paragraph 20, figure 2 numeral 42a);
- and a control circuit for controlling access to said storage medium from said first host and said second host (figure 2 numeral 42),
- so that, when only one of said first host and said second host is effectively interfaced with said apparatus, said storage medium is appended to said effectively interfaced host and said apparatus provides access to said storage medium from said effectively interfaced host (paragraph 22, figure 2),
- and when both said first host and said second host are effectively interfaced with said apparatus, said storage medium is appended to one of said first host and said second host (paragraph 24, figure 2)
- said apparatus provides bridging between said first host and said second host as well as access to said storage medium from both said first host and said second host (paragraph 20, particularly "whereas operational mode B 42b is a host-to-host linking device.", paragraph 26, figure 2 numeral 42b).

Lin does not disclose a buffer circuit interfaced with said first hot plug/hot swap interface, said second hot plug/hot swap interface and said storage interface so as to process data among said first host, said second host, and said storage medium.

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However, Perry discloses a Message Buffer (paragraph 27, figure 1 numeral 20) interfaced with a first and second host (figure 1 numeral 16), and a mass storage unit (paragraph 20 figure 1 numeral 14), and acts in the process of data among the hosts' and the mass storage unit (paragraph 33 and 35, figure 1)

- It would have been obvious to one having ordinary skill in the art at the time of the applicant's claimed invention to incorporate the teaching of Perry into the system of Lin to have a single buffer circuit instead of numerous buffer circuits.
- The modification would have been obvious because one having ordinary skill in the art would want to reduce the number of buffer circuits in their system in order to save both space and cut down the cost of production.

Neither Lin nor Perry disclose: a cable having at one end a third connector for connecting to said second connector and at the other end a forth connector for connecting to said second host.

However, Luke discloses: a cable having at one end a third connector for connecting to said second connector and at the other end a fourth connector for connecting to said second host (Luke, figure 1 numeral 14)

- It would have been obvious to one having ordinary skill in the art at the time of the applicant's claimed invention to incorporate the teaching of Luke into the system of Lin and Perry to provide a cable for allowing a greater distance between the host devices.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian T. Misiura whose telephone number is (571) 272-0889. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rehana Perveen can be reached on (571)272-3676. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brian Misiura
9/7/2006

[Signature]
REHANA PERVEEN
SUPERVISORY PATENT EXAMINER
9/11/06